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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/723,480
Filing Date: November 28, 2000
Appellant(s): MCDYSAN ET AL.

Phouphanmketh Ditthavong
Reg. No. 44,658
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 16, 2010 appealing from the Office action mailed October 22, 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal other than those listed by the appellant.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-43 are pending in this appeal and have been rejected in the final rejection mailed October 22, 2010.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6606316	Albert et al.	8-2003
6167445	Gai et al.	12-2000
7133403	Mo et al.	11-2006
6680943	Gibson et al.	6-2004
6651096	Gai et al.	11-2003
6055561	Gedman et al.	3-2000
5115432	Hass	5-1992
5027269	Grant et al.	6-1991

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4, 7-9, 12-13, 17, 20-24, 27-28, 31-32, 36, and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert (6606316) in view of Gai (6167445).

Regarding claims 1 and 21, Albert teaches a method of communication in, a network access system including an external processor and a programmable access

device (Figure 2A, where the PAD is the forwarding agent and the external processor is the service manager), said method comprising:

receiving a control message from the external processor to the programmable access device to establish a configuration of the programmable access device (Column 6, lines 40 – 46);

receiving, by the programmable access device, messages from a first network external to the network access system via a first network interface (Column 6, lines 24 – 27);

processing, by the programmable access device, the messages from the first network to distinguish between various message types and to establish a first subset of the received messages and a second subset of the received messages (Column 6, lines 46 – 50; Column 9, lines 14 – 20);

communicating a first subset of the received messages from the programmable access device to the external processor for service processing in accordance with the configuration (Column 6, lines 46 – 50; Column 9, lines 14 – 20); and

routing a second subset of the received messages not communicated to the external processor from the network access system via a second network interface different from the first network interface to a second network external to the first network access system, wherein the second network is different from the first network (Column 6, lines 44 – 48).

Albert teaches that the programmable access device and external process are providing network service between a network and physical services (Col. 2, lines 20 – 37). Albert does not explicitly indicate that the second subset of packets are transmitted from the programmable access device through another access router to the second external network.

Gai '445 teaches a system with intermediate device for maintaining network services, packet classification, packet filtering, and other policy implementation like the forwarding agents in Albert (Col. 12, lines 19 - 67) where those devices forward subsets of packets into other access routers in the internal network. *See* Fig 3, where the intermediate device 318, accepts traffic from an external network 304 and forwards packets onto other access routers such as 312.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to expand Albert's system instead of just operating as a forwarding agent for host servers it can operate to provide services and forwarding functions for an entire network including other routers to allow a more diverse implementation of the system.

Regarding claim 40, Albert teaches a distributed router comprising:

a first network interface through which packets are communicated with a first network (Figure 2B, element 260);

a second network interface different from the first network interface through which packets are communicated with a second network different from the first network (Figure 2B element 258);

a programmable access device configured to input messages from the first network via the first network interface (Column 6, lines 24 – 27); and

an external processor configured to receive, from the programmable access device, a first portion of the input messages and to transmit a control message to the programmable access device specifying a configuration to control the selection of the first subset (Column 6, lines 46 – 50; Column 9, lines 14 – 20),

wherein the programmable access device forwards a second portion of the input messages not received by the external processor for routing via the second network interface to the second network (Column 6, lines 44 – 48).

Albert teaches that the programmable access device and external process are providing network service between a network and physical services (Col. 2, lines 20 – 37). Albert does not explicitly indicate that the second subset of packets are transmitted from the programmable access device through another access router to the second external network.

Gai ‘445 teaches a system with intermediate device for maintaining network services, packet classification, packet filtering, and other policy implementation like the forwarding agents in Albert (Col. 12, lines 19 - 67) where those devices forward subsets of packets into other access routers in the internal network. See Fig 3, where the intermediate device 318, accepts traffic from an external network 304 and forwards packets onto other access routers such as 312.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to expand Albert's system instead of just operating as a forwarding

agent for host servers it can operate to provide services and forwarding functions for an entire network including other routers to allow a more diverse implementation of the system.

Regarding claim 2 and 22, Albert teaches that transmitting a control message comprises transmitting a filter control message to establish a configuration of a packet header filter in the programmable access device (Column 8, lines 62 – 65); and communicating messages comprises communicating network messages filtered from a packet flow by the packet header filter of the programmable access device (Column 12, lines 48 – 62).

Regarding claim 3 and 23, Albert discloses limiting communication of network messages from the programmable access device to the external processor by sending the programmable access device a message setting message interface flags in the programmable access device (Figure 12A and 12B).

Regarding claims 4 and 24, Albert teaches transmitting a control message comprises transmitting a monitor control message to establish a configuration of a monitor in the programmable access device; and communicating messages comprises communicating reporting messages from the programmable access device to the external processor in response to the configuration of the monitor (Column 6, lines 40 – 53).

Regarding claim 7 and 27, Albert teaches transmitting a control message comprises transmitting a policer control message to establish a configuration of a policer in the programmable access device (Column 6, lines 40 – 53).

Regarding claims 8 and 28, Albert teaches transmitting a control message comprises transmitting a forwarding table control message to establish a configuration of a forwarding table in the programmable access device (Column 12, lines 48 – 62).

Regarding claim 9, Albert teaches establishing a configuration of a forwarding table comprises establishing a new forwarding table in the programmable access device (Column 8, lines 62 – 65).

Regarding claim 12 and 31, Albert teaches teaches transmitting a control message from the external processor to the programmable access device to establish a configuration of the programmable access device comprises transmitting a control message specifying a source from which packets are not to be accepted; and the method further comprises dropping packets from the specified source by the programmable access device (Column 9, lines 14 – 16).

Regarding claim 13 and 32, Albert teaches indicate that in response to service processing by the external processor, injecting a packet from the external processor into packet flow through the programmable access device (Column 9, lines 21 – 28).

Regarding claim 17 and 36, Albert teaches the method of claims 1 and 21, wherein receiving a control message comprises accessing a control processor on the external processor via an application programming interface (Column 10, lines 1 – 4).

Regarding claims 20 and 39, Albert teaches transmitting a control message comprises transmitting a control message via an intermediate communication network (Column 9, lines 36 – 47).

Claims 5 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert in view of Gai '455, and in further view of Haas (5115432).

Regarding claim 5 and 25, Albert teaches the method of claims 1 and 21.

Albert does not explicitly indicate transmitting a monitor control message comprises transmitting a control message to establish a threshold number of allowed retransmissions.

Haas teaches that an access device's configured policy should include a retransmissions policy (Column 7, lines 45 – Column 8, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Haas' teachings of a retransmission policy on Albert's network node reconfiguration system in order to give the network management a tool to help reduce congestion in the system and obtain optimal performance (Column 7, lines 58 – 61).

Claims 16, 18, 35, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert in view of Gai '455, and in further view of Feldman (6055561).

Regarding claims 16, 18, 35, and 37, Albert teaches the method of claims 1 and 21.

Albert does not explicitly indicate exchanging keepalive and acknowledgment messages between the external processor and the programmable access device.

Feldman discloses a network system with network nodes and teaches acknowledgement and keepalive messages are communicated between the nodes (Figure 5; Column 9, line 65 – Column 10, line 11).

It would have been obvious to one or ordinary skill in the art at the time the invention was made to use Feldman's teaching of keepalive messages and acknowledgements in Albert's system in order to know that the communication paths are still open and the communications are being received (Column 9, line 65 – Column 10, line 11).

Claims 19 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert in view of Gai '455, and in further view of Grant (5027269).

Regarding claims 19 and 38, Albert teaches the method of claims 1 and 21.

Albert does not explicitly indicate that in response to failure of a service controller servicing the session in the external processor.

Grant discloses a system for failure recovery where in the detection of failure in a system where data is lost (Column 4, lines 42 – 51) sending a request for state of a session information (Column 4, line 67 – Column 5, line 2).

It would have been obvious to one or ordinary skill in the art at the time the invention was made to use Grant's teaching in Albert in order to allow the external processor to recover the data that was lost as result of a fault (Column 2, lines 46 – 65).

Claims 10-11 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert in view of Gai '455, and in further view of Gai (6651096).

Regarding claim 10 and 29, Cohen teaches the method of claims 1 and 21.

Albert does not explicitly indicate transmitting a control message comprises transmitting a control message to establish a configuration of a scheduler and one or more associated output buffers in he programmable access device.

Gai '096 discloses a system for controlling the configuration of an access device that includes making configuration changes to a scheduler and has one or more output queues (Column 6, lines 19 – 28).

It would have been obvious to one or ordinary skill in the art at the time the invention was made to use Gai's teaching of configuration a scheduler on an access device in Albert's system in order to ensure QoS treatments for data flows (Column 6, lines 18 – 21).

Regarding claim 11 and 30, Albert teaches the method of claims 1 and 21.

Albert does not explicitly indicate transmitting a control message comprises transmitting a shaper control message to establish a configuration of a shaper in the programmable access device.

Gai '096 discloses discloses transmitting a control message comprises transmitting a shaper control message to establish a configuration of a shaper in the programmable access device (Gai, Column 6, lines 19 – 30).

It would have been obvious to one or ordinary skill in the art at the time the invention was made to use Gai's teaching of configuration a scheduler on an access device in Albert's system in order to ensure QoS treatments for data flows (Column 6, lines 18 – 21).

Claims 6, 14-15, 26, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert in view of Gai '455, and in further view of Gibson (6680943).

Regarding claim 6 and 26, Albert teaches the method of claims 4 and 24.

Albert does not explicitly indicate transmitting a monitor control message comprises transmitting a threshold activity level.

Gibson teaches a network node remotely configured that includes configuring a session to have a guaranteed quality of service, which gives a minimum threshold of activity to a connection session (Column 9, lines 32 – 37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Gibson's teachings on Albert's system in order provide users with guaranteed service, especially for applications such as video and voice.

Regarding claim 14 and 33, Albert teaches the method of claims 1 and 21.

Albert does not explicitly indicate transmitting a control message from the external processor to the programmable access device to establish a configuration of the programmable access device comprises transmitting a session deletion control message; and the method further comprises the programmable access device deleting a session specified by the session deletion control message

Gibson discloses transmitting a control message from the external processor to the programmable access device to establish a configuration of the programmable access device comprises transmitting a session deletion control message; and the method further comprises the programmable access device deleting a session specified

by the session deletion control message because it discloses starting a session (INVITE) and deleting (tearing down or cancelling) a session (BYE and CANCEL) where these messages go from the control node to the access device (Gibson, Figure 3, Column 12, lines 7 – 14; Column 12, line 65 – Column 13, line 17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Gibson's teachings on Albert's system in order provide users with guaranteed service, especially for applications such as video and voice.

Regarding claim 15 and 34, Albert teaches the method of claims 1 and 21.

Albert does not explicitly indicate that the external processor signales network hardware to establish a network connection in response to receipt of a message from the programmable access device

Gibson discloses the external processor signaling network hardware to establish a network connection in response to receipt of a message from the programmable access device (Gibson, Column 9, lines 32 – 40).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Gibson's teachings on Albert's system in order provide users with guaranteed service, especially for applications such as video and voice.

Regarding claim 42, Albert in combination with Gai teaches the network access system of Claim 21, further comprising: a third network coupling the programmable access device to the access router (Col. 8, lines 17-25; where there can be switches and servers between edge routers and other routers).

Regarding claim 43, Albert in combination with Gai teaches the network access system of Claim 42, wherein the coupling is made via one of an Asynchronous Transfer Mode (ATM) switch and a Multi-Protocol Label Switching (MPLS) switch (Gai, Col. 5, lines 10 – 15).

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albert in view of Gai, and in further view of Mo (7133403).

Regarding claim 41, Albert in view of Gai teaches the network access system of Claim 21.

The combination does not explicitly indicate wherein the access router comprises a forwarding table, and Exterior Gateway Protocol (EGP) and Interior Gateway Protocol (IGP) routing tables.

Mo teaches a network access system with edge routers and internal routers (Col. 6, lines 36 - 43) with includes access router comprises a forwarding table, and Exterior Gateway Protocol (EGP) and Interior Gateway Protocol (IGP) routing tables (Col. 6, lines 57 – 64; Col. 2, lines 10 – 17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Mo's teaching of IGP and EGP protocols to generate the forwarding tables in routers that enact edge routers and internal routers.

(10) Response to Argument

Regarding claims 1, 21, and 40, the Appellant argues that the combination of Albert in view of Gai does not disclose routing the second subset of the received messages not communicated to the external processor, via the access router, to the network access system. See Brief pg 8.

The examiner disagrees:

The language of claim 1 mostly requires a programmable access device to establish a first subset and second subset of packets; forward the first subset to the external processor, and forward the second subset, **via the access router**, to a second network external to the network access system. Albert has previously be relied upon based on Fig. 2A. Element 231 is a forwarding agent and functions as the appellant's claimed programmable access device. Element 241 is the service manager and it functions as the external processor. Element 220 are additional server systems which function as the destination of messages sent through the second external network. More specifically, Alberts teaches that the service manager creates configuration parameters for the forwarding agent to follow (Col. 9, ll. 1 - 8). The forwarding agent with the configuration sends a portion (subset) of the received packets to the service manager (Col. 6, ll. 46 – 50; Col. 9, ll. 14 – 20). The forwarding agent sends the remaining packets not sent to the service manager onto the servers (Col. 6, ll. 24 - 27; ll. 44 - 48).

The BPAI has previously upheld the §102(e) rejection of Albert in this application. *See* BPAI Decision mailed Sept. 21, 2009. In the BPAI decision, the Board determined that Albert anticipates the servers are on a second network external to the first network

and that the second subset of packets are routed via a second network interface. *See* BPAI decision, pgs 9-11.

The only claim element not being relied upon by Albert is that the second subset of messages are transferred to the external network via the access router. *See* Claim amendment, filed May 28, 2010. For that teaching the examiner has provided the teaching of the secondary reference Gai. The Appellant agrees that Gai provides a teaching of a router which can forward messages between domains, but fails to teach or suggest the message subsets, external processor, external networks, etc. See Brief, pgs 9-10. However, each of those limitations have already been shown to be taught by Albert. The only required limitation that Albert fails to clearly anticipate in claim 1 is the presence of an access router between element 231 and 220 in Figure 2A.

Gai teaches a network which configures policy controls to forwarding devices in the network (Col. 9, ll. 55 - 58). As part of Gai's teaching messages get classified and then forwarded by a router if the packet is received from an untrusted source (Col. 11, ll. 1-10), but there can exist additional intermediate routing devices which route packets which had been policed onto their destinations (Col. 7, ll. 60 - 65; Col. 11, ll. 1-10). So Gai teaches a network in an analogous field of message filtering where a forwarding device can receive messages, provide rules or policy to those messages, and forward the message onto an external network via an intermediate router device (*See* Fig. 3, elements 316, 318, 304).

Once of ordinary skill in the art at the time the invention was made could use Gai's teaching that messages that can have messages applied policies to them at a first

forwarding device and can be sent onto a second network via an intermediate hop and apply that teaching to improve the Albert system of Fig 2A. Said one of ordinary skill would be able to, based on Gai include an intermediate device between the forwarding agent 231 and the server system 220. That improvement of the system would result in a system where the second subset of messages in Albert would be transferred to the external network of 220, via an access router, as required by the claim language of claims 1, 21, and 40. One would be motivated to do so to allow Albert's system to become more complex and have additional destinations attached to intermediate device and not have the forwarding agent be required to be connected to all server destinations directly.

The Appellant additionally argues that the reference of Gai and Albert are so different that one of ordinary skill in the art would not force fit routers from Gai into Albert. See Brief, Pg 11.

The examiner disagrees:

Gai teaches a system for implementing global traffic policies on diverse intermediate devices (Col. 6, ll. 6 – 26). These policies include dropping certain packets, but also classifying packets into traffic types (Col. 6, ll. 43 – 56). Albert's system is generally concerned with separately programming forwarding devices for the purpose of classifying packets and tailoring data flows (Col. 3, ll. 59 – 66). It is clear that both systems are analogous due to the ability to program rules into intermediate

devices to allow the implementation of various traffic controls. The idea that Gai cannot be used to suggest improvements in Albert due to packet dropping overlooks all the other analogous and related teachings of these two references.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/KEVIN BATES/
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/Aaron Strange/

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